

Amendments to the claims:

This listing of claims will replace all prior versions and listings of claims in the application:

AMENDMENTS TO THE CLAIMS

1-65. (Canceled).

66. (Currently amended) A system for collecting a plurality of samples of breath of a subject comprising:

an breath conduit oral/nasal cannula adapted to convey exhaled breath from the subject;

a pump for collecting said exhaled breath from the subject by means of its suction effect;

a carbon dioxide sensor for determining carbon dioxide level in said exhaled breath, wherein said sensor is adapted to provide a signal indicative of said carbon dioxide level in said exhaled breath, wherein said signal triggers the commencement of collection of samples of at least part of said exhaled breath;

a plurality of sample containers for collection of said plurality of samples;
and

a sample distributor adapted to receive said breath motioned by said pump
and to direct different collected samples of said exhaled breath to different ones of said plurality of sample containers.

67. (Previously presented) A system according to claim 66 and also comprising a controller, and wherein said different samples of said exhaled breath are directed to different ones of said plurality of sample containers according to said controller.

68. (Previously presented) A system according to claim 66 and wherein said sample distributor is operated manually.

69. (Previously presented) A system according to claim 66 wherein said sample distributor directs said samples at predetermined times.

70. (Previously presented) A system according to claim 69 wherein said predetermined times are at fixed time intervals.

71. (Previously presented) A system according to claim 69 wherein said predetermined times are determined by a characteristic of said breath of the subject.

72. (Previously presented) A system according to claim 71 wherein said characteristic of said breath is at least one of the carbon dioxide concentration, the oxygen concentration, the excess pressure, the temperature, the humidity, the flow rate and the sound of said breaths.

73. (Previously presented) A system according to claim 69 wherein said predetermined times are determined by at least one physiological characteristic of the subject.

74. (Previously presented) A system according to claim 73 wherein said at least one characteristic of the subject is selected from a group consisting of the subject's breath composition, breath rate, heart rate, blood pressure, gastric pH value and temperature.

75. – 77. (Canceled).

78. (Previously presented) A system according to claim 66 and also comprising a valving system to select said at least part of said exhaled breath for transfer to said sample distributor, according to said carbon dioxide level in of said exhaled breath.

79. (Previously presented) A system according to claim 67 and also comprising a valving system to select said at least part of said exhaled breath for transfer to said sample distributor, according to said carbon dioxide level in of said exhaled breath.

80. (Previously presented) A system according to claim 78 and wherein said sensor is a capnographic analyzer, and said carbon dioxide level comprises carbon dioxide concentration, carbon dioxide waveform or both.

81. (Previously presented) A system according to claim 79 and wherein said sensor is a capnographic analyzer, and said carbon dioxide level in comprises carbon dioxide concentration, carbon dioxide waveform or both.

82. (Previously presented) A system according to claim 80 wherein said at least part of said breath is determined by said carbon dioxide concentration, carbon dioxide waveform or both.

83. (Previously presented) A system according to claim 82 wherein said at least part of said breath is collected when said carbon dioxide concentration of said breath is at the plateau value of its waveform, such that alveolar air is sampled.

84. (Previously presented) A system according to claim 79 wherein said controller causes said sample distributor to direct said samples at predetermined times.

85. (Previously presented) A system according to claim 84 wherein said predetermined times are at fixed time intervals.

86. (Previously presented) A system according to claim 84 wherein said predetermined times are determined by a characteristic of said breaths of the subject.

87. (Previously presented) A system according to claim 86 wherein said characteristic of said breath is at least one of the carbon dioxide concentration, the oxygen concentration, the excess pressure, the temperature, the humidity, the flow rate and the sound of said breaths.

88. (Previously presented) A system according to claim 84 wherein said predetermined times are determined by a physiological characteristic of the subject.

89. (Previously presented) A system according to claim 88 wherein said at least one physiological characteristic of the subject is selected from a group consisting of the subject's breath composition, breath rate, blood pressure, pulse rate, gastric pH value and temperature.

90. (Previously presented) A system according to claim 66 and wherein at least one of said sample containers is a flexible bag.

91. (Previously presented) A system according to claim 66 and wherein at least one of said sample containers has rigid walls and is evacuated before collection of said samples.

92. (Previously presented) A system according to claim 80, and wherein said valving system is adapted to direct breath exhaled when said carbon dioxide concentration of said breath is at the plateau value of its waveform into a first one of said sample containers, and breath inhaled when said carbon dioxide concentration of said breath is at the baseline of its waveform into a second one of said sample containers.

93. (Previously presented) A system according to claim 92, and wherein at least said first and second ones of said sample containers contain a material which absorbs a predetermined gas of said breath of the subject, and at least said first and second ones of said plurality of sample containers comprise a heater for expelling said predetermined gas of said breath of the subject.

94. (Previously presented) A system according to claim 92 and wherein said predetermined gas is a volatile organic compound.

95. (Currently amended) A system for collecting a plurality of samples of breath of a subject comprising:

an breath conduit oral/nasal cannula adapted to convey exhaled breaths from the subject to said system;

a pump for collecting said breath from the subject by means of its suction effect;

a plurality of sample containers for collection of said plurality of samples;

a capnographic analyzer for determining carbon dioxide concentration in said exhaled breaths of the subject;

a controller adapted to receive input at least from said capnographic analyzer;

a sample distributor which is adapted to receive said breath motioned by said pump and to direct different predetermined samples of said exhaled breaths to different ones of said plurality of sample containers, according to said controller; and

a valving system adapted to select at least part of one of said exhaled breaths to said sample distributor according to said capnographic analyzer.

96. (Previously presented) A system according to claim 95 wherein said valving system is further adapted to select said at least part of said breath, by at least one

characteristic of the subject selected from a group consisting of the subject's breath composition, breath rate, heart rate, blood pressure, gastric pH value and temperature.

97. – 102. (Canceled).

103. (Previously presented) A system according to claim 95 and wherein at least one of said sample containers is a flexible bag.

104. (Previously presented) A system according to claim 95 and wherein at least one of said sample containers has rigid walls and is evacuated before collection of said samples.

105.-109. (Canceled).

110. (Withdrawn) A method for determining the concentration of a volatile organic compound in the breath of a subject, compared to that of the ambient air, comprising the steps of:

collecting breath from the subject through a breath conduit;

determining the waveform of the breath of the subject by capnographic analysis;

directing breath from different parts of said waveform of said subject to different sample containers using a sample distributor actuated according to the results of said capnographic analysis, such that a first one of said different sample containers collects at least one sample from the breath of said subject indicative of the ambient air inhaled by the subject; and a second of said different sample containers collects at least one sample from the breath of said subject indicative of the alveolar breath of the subject; and

analyzing said exhaled breath collected in said different sample containers for volatile organic compound content.

111. (Withdrawn) A method according to claim 110 and wherein said first one of said different sample containers collects breath at the baseline of the waveform of said breath of the subject, and said second one of said different sample containers collects breath from the plateau value of the waveform of said breath of the subject.

112. (Withdrawn) A method according to claim 110 and wherein at least one of said different sample containers contains a material which absorbs at least part of said breath of the subject.

113. (Withdrawn) A system for collecting a plurality of samples of breath of a subject comprising:

a breath conduit adapted to convey exhaled breath from the subject;

a plurality of sample containers for collection of said plurality of samples; and

a manually operated sample distributor which directs different predetermined samples of said breath to different ones of said plurality of sample containers.

114. (Withdrawn) A system according to claim 113, further comprising a controller providing prompts to said subject to operate said sample distributor manually.

115. (Withdrawn) A system according to claim 114, further comprising a breath sensor, and wherein said controller providing prompts to said subject to operate said sample distributor manually according to the output of said breath sensor.

116. (Withdrawn) A system according to claim 113, wherein said manually operated sample distributor is operated at predetermined intervals.

117. (Withdrawn) A method of analyzing multiple samples of exhaled breath of a subject, comprising the steps of:

collecting exhaled breath from the subject through a breath conduit; and

directing different predetermined samples of said breath to different ones of a plurality of sample containers by means of a sample distributor,

wherein said breath samples in said plurality of collection containers are analyzed remotely from said breath collection system.

118. (Withdrawn) A method according to claim 117, wherein at least said sample distributor and said plurality of sample containers are carried by the subject in a portable package.

119. (Withdrawn) A method according to claim 118, wherein said portable package is such that it does not impede the subject's regular activities.

120. (Previously presented) A system according to claim 66 and wherein said samples are adapted to be analyzed in one or more breath tests.

121. (Previously presented) A system according to claim 120 and wherein said one or more breath tests comprise: determining effectiveness of a drug, determining bacterial overgrowth, determining volatile organic compounds (VOC) content, determining a volume of a labeled molecule exhaled, determining ratio of isotope concentrations, determining liver function, determining pancreatic function or any combination thereof.

122. (Canceled).